DOCUMENT RESUME

ED 432 296 IR 019 666

AUTHOR	Weiserbs, Barbara; Arnow, David
TITLE	E-Mail between Children with and without Hearing Disabilities: The Case for Teacher Intervention.
SPONS AGENCY	City Univ. of New York, NY.
PUB DATE	1999-03-00
NOTE	7p.; In: SITE 99: Society for Information Technology & Teacher Education International Conference (10th, San Antonio, TX, February 28-March 4, 1999); see IR 019 584.
CONTRACT	RF991982
PUB TYPE	Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Cooperative Programs; *Electronic Mail; *Hearing Impairments; Interaction; Intermediate Grades; Internet; *Interpersonal Communication; Program Implementation; Qualitative Research; Social Studies; Student Attitudes; Student Role; *Teacher Role; Teaching Methods
IDENTIFIERS	Technology Integration

ABSTRACT

This study examined the consequences of establishing e-mail communication between two classes in different schools: a fifth grade of children with hearing difficulties and a fourth grade of children without hearing difficulties. The arrangement provided an opportunity for children to interact with peers whom they would not normally meet at school. Relying on material from their own social studies curriculum, pairs of children exchanged information in a structured fashion. This allowed children to assume the role of both teacher/resource and learner and to develop potential friendships in an ongoing correspondence. Results indicated that successful implementation requires significant teacher intervention by integrating the program with the existing curriculum. One unexpected but important effect of this bridge between schools was the exposure of participating teachers to school cultures distinct from their own, particularly in regard to differences in teaching methods. This can lead to a reassessment of values and curriculum needs. (Author)

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ED 432 296

E-mail between Children With and Without Hearing Disabilities: The Case for Teacher Intervention

Barbara Weiserbs
Department of Behavioral Sciences
Kingsborough Community College, City University of New York
United States
weiserbs@sci.brooklyn.cuny.edu

David Arnow
Department of Computer and Information Science
Brooklyn College, City University of New York
United States
arnow@sci.brooklyn.cuny.edu

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Abstract: This study examined the consequences of establishing e-mail communication between two classes in different schools: a fifth grade of children with hearing difficulties and a fourth grade of children without hearing difficulties. The arrangement provided an opportunity for children to interact with peers whom they would not normally meet at school. Relying on material from their own social studies curriculum, pairs of children exchanged information in a structured fashion. This allowed children to assume the role of both teacher/resource and learner and to develop potential friendships in an ongoing correspondence. Results indicated that successful implementation requires significant teacher intervention by integrating the program with the existing curriculum. One unexpected but important effect of this bridge between schools was the exposure of participating teachers to school cultures distinct from their own, particularly in regard to differences in teaching methods. This can lead to a reassessment of values and curriculum needs.

Introduction

This paper describes a structured, collaborative-e-mail-based model for communication between remote classrooms that was used in a project in which e-mail was used to bring together two populations of children that would not ordinarily have the opportunity of interacting together. One population was a general education class within a public school and the other population was a class within a school for children with hearing impairments. The purpose of the project was to increase social and academic development for both groups. The paper focuses on the role that teachers must assume and the necessary place of the model in the curriculum if this kind of electronic collaboration effort is to succeed.

The paper also examines the potential benefit of this model for teachers who are isolated by their unique functions. For example, special education teachers using this model can gain access to perspectives and teaching methods that may have been overlooked because of their own focus on compensating for their students' disabilities. Regular education teachers can also benefit from this interactive approach by becoming more acquainted with children whose abilities and experiences differ from what they have come to expect.

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Background

Children with disabilities whose problems cannot be met in general education classes are frequently placed apart— sometimes in entirely separate schools with populations of children who share similar problems. As a result, children in general education often have little contact with these children. Attitudes that develop rely on stereotyped images that often perpetuate distorted information (Roberts & Reaves, 1983).

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At the same time, an insulation results for teachers in special schools as they develop their own culture, which reinforces its own values and approaches, and primarily supports their expertise in the area of the child's disability. Lost is the interaction with colleagues in general education and access to diverse methodologies. This reinforces the focus on the disability at the expense of general needs that exist in all children.

To overcome this isolation, we developed a structured model for e-mail communication that fosters both academic and social opportunities in the context of cooperative learning. Specifically, the communication in our project is the exchange of knowledge that children acquire from their social studies curriculum. Thus children take on the roles of both teacher and learner. When the child plays the role of teacher, learning takes on greater meaning as ideas are actively reviewed and reorganized in order to explain them in writing. Thus, each child's own knowledge is deepened through rethinking and recording ideas, and by replying to further questions that the information they send elicits. Playing the role of learner— using the other child as resource/teacher—breaks down traditional stereotypes. Each child is valued for his or her complementary knowledge.

Methodology

Population

Two groups of children in different schools in Brooklyn were selected. Both groups were gender-balanced, ethnically diverse but similar socioeconomically and intellectually.

One group consisted of English-speaking fourth grade children with no disabling conditions. They attended a mixed-grade general education class in a public school where creative problem-solving through student interaction, and constructive discussions between peers was emphasized. The children in this class were also heterogeneously grouped with regard to intellectual abilities

The second group consisted of fifth grade children in a school for the deaf. Their common defining characteristic was some degree of hearing dysfunction ranging from severe to profound loss. Their most outstanding difference with the first group was the use of American and English Sign Language as their primary means of communication. The children wrote in English, but exhibited a slower rate of progress in writing skills because of the disadvantage caused by hearing loss.

Project Procedure

Teachers in the participating schools paired children from the two groups by gender, behavior style, shared or complementary interests and as closely as possible for writing level in order to promote the social and educational goals of the experiment. The purpose of the pairing criteria was to encourage the children to become acquainted with each other over the course of the school year through a structured cooperative framework where social studies information, issues and ideas were exchanged, ultimately providing the potential for friendships to form.

The most essential procedural element for the success of this project was for the teachers to integrate the e-mail exchanges into their existing social studies curriculum. The following guidelines were given:

1) Review and chart the most interesting aspects of the social studies topic.
2) Display and provide charts, books and other materials as resources for students.
3) Have students work together to generate issues, information and opinions.
4) The message exchange should be simple and concrete.
5) Focus on the content of the message and not on a grammatically correct message.
6) Generate a list of questions about what they'd like to learn from the collaborating class.

There were two phases to the communication process.

Phase 1. The first phase helped children gain familiarity with e-mail technicalities and its informal protocols and begin the contact with their partners. During this phase, children informally shared personal information with one another. A typical message from a child with hearing limitations would include their name, age, a statement about their disability, the number of people in their family and their current interest:

Dear ___,
Hi, How are you ? I am fine. My name is _____. I am 11 year old. I am deaf. How are year old? I born in Barbados. My birthday when aril, 6 1985. Where you born. When your brithday? What your favorite to play game? My favorite play game baseball.
Write back soon!

Mail from children without the disability tended to be less formal:

Dear _____
Hey how ya doi'n. Are you a girl or boy beacause i'm a boy. How old are you i'm 9 . Do you have a class project I do.What is your reaserch thing.Do you like Fish. Is your teacher nice WELL
I GOT TO GO NOW SEE YA

Phase 2. Next, a more structured interchange was established and continued until the end of the school year. Each message was to contain at least one piece of information that the child had found interesting in their social studies curriculum and one question that he or she had concerning the topic that the e-mail partner was studying. Teachers could introduce the social studies exchange by using some variation of the following model:

> Children in class X have been studying _____ for a few weeks now. Instead of me teaching this to you, I'd like you to find out as much as you can about this topic from your e-mail partner. Let's write up a chart of questions we want to ask. Then each of you can print out what you've learned. We can put this information together into a book or we can make a chart that displays the questions and answers.

Below are some representative notes from the children during this phase:

Dear _____
How are you? I'm fine
I have Dante's Peak at home. I reallllllyyyyyyyy like that Movie. I learn about Canada. They love hockey and vvvveeeerrrryyyy CCCCOOOOLLLLDDDD weather

Dear _____,
We saw a video tqoday and it was about the arctic. Teacher keeps on showing us arctic videos.
We saw polar bears, walruses, penguins, huskkkys, and seals. In the summer in the arctic there is a tiny bit of snow and there are different kinds of wild flowers.
What are you studying now?

_____

Dear ____,
Canada love ice hockey and ski. Canada is cold because Canada is north.
see shoe and boot for cold weather outside wet socks need hang to dry.
Can go skiing.
Now we study Mexico.

The second phase especially required the teacher to incorporate this project into the existing social studies curriculum, to treat e-mail as an integral part of the school day and to enable all children to participate in it on a regular basis. No new curriculum material was necessary for the teachers to develop, just to review and to create questions for the other class.

Evaluation Criteria. The project was evaluated qualitatively, by examining e-mail content, and quantitatively, by considering e-mail frequency. We also looked for asymmetries in e-mail usage between the classes.

Results

As the project evolved, we began to notice that the teachers in the two participating classrooms had very different approaches to the use of e-mail, and it is this difference and its impact that constitutes the core result of this paper.

Outcome: School 1 (the general education class)

The childrens' initial response to this project was one of sheer excitement. After the system was installed and we exchanged mail with each child, we visited the class. It was indicative of their enthusiasm for the new medium that children spontaneously stood up and excitedly introduced themselves. A typical comment was:

"Hi, I'm A___. I'm the one who wrote to you about X".

Early messages between children reflected the same initial excitement. For example:

hi it is me _____ I am so glad you wrote to me . my favorte tv show is the same one is yours . i will like to see you one day in person . i hope you will like to see me to .

Dear ____,
Isn't the Net cool?! I meen, I can't see you but I can read what your thinking from miles away (or just 10 minuts away). Okay we have alot of catching up to do. My favorite color is blue..."

I am glad you are my p.p. I would like you to send longer letters to me. my phone number is _____. can you give me yours. I wont to send you alot of leters so you will get alot of mail. will you give me alot of mail. How do you pernonce your name.

As we will see below, limited access to the computer in School 2 led to infrequent responses to School 1. This caused the School 1 children to write messages such as, "write to me, write anything!" By June, with continued limited response from their partners, enthusiasm had changed to dissatisfaction and reluctance to participate. One youngster, speaking to his teacher said, "do I have to?". Many messages illustrated frustration with not receiving mail.

Dear _____,
Why havn't you talked to me? I would like to talk to you! Talk to me!
TALK TO ME 111
mesplease!
I want to tell you my poiems! I want to just say stuff! Please just at least once. Well, before I go crazy (which I am already) I'll go.
Bye!

Dear ___
Where are you I"ve wrtoe and wrtoe to you but you don't write to me Is your computer broken? Is your shool closeed? Any way wane dose your school close? I have no idea what to say so good--by
from ,
___

Outcome: School 2

Each child had one designated time each week for checking, responding to and sending new mail. However, these times were often pre-empted by other work. Children could only use e-mail when the teachers told them to and so the task became an assignment that lost the joy and natural curiosity it was expected to promote. These external constraints interfered with timely response to, free communication with, and a development of interest in the children with whom they were paired. The result was frustrating at best.

School 1:
HI! HOW ARE YOU/I AM FINE. WHAY ARE YOU NOT SENDING ME ANYTHING? BYE NOW

School 2:
Dear ____
HI, HOW ARE YOU? I AM FINE! WHAT HAPPEN YOU NOT E-MAIL ME? I WAIT FOR YOU E-MAIL ME! PLEASE HURRY YOU E-MAIL! OK! NOW WHAT LEARN ABOUT CANADA? I LEARN ABOUT MEXICO REAL COUNTINE! I GOT GO CLASSROOM! GOOD BYE!

E-mail Tabulation

Tabulation of e-mail traffic revealed a sharp disparity in the number of e-mail messages sent between the two classes, consistent with the imbalance of class time that was set aside for e-mail use. Greater than twice the amount of messages were sent from the School 1 children than were received by them (179 vs. 81). From teacher reports and our own observations, we also noticed a disparity in the amount of time it took to write messages.

Discussion

Additional roles of the teacher

After a year's experience in this project, we can identify three additional underlying elements of the teacher's role:

Technical functions. The most commonly examined role is the technical one. The teacher is responsible for introducing basic machine and network access procedure, e-mail operations, editing and e-mail message conventions— particularly the one that overlooks typographical and spelling mistakes. Content is primary; form is not. When teachers belabor form, communication becomes a chore for the students and teachers alike and the effort reduces spontaneity, and makes the goals of this project less obtainable.

Integration into the curriculum. Computer access is a major source of contention both between children and for each child's time allocation during the school day. In order for an e-mail project to benefit and not detract from other activities, it must be integrated into the ongoing activities and become part of daily ongoing assignments.

Psychological functions. Because e-mail is inherently interesting and self-motivating, initially little additional teacher intervention is needed. However, when technical problems interfere with message transfer or when e-mail partners fail to respond, children understandably become frustrated. At this point teachers must encourage children to overcome hurdles and to help them resolve problems. This role is especially important because the sense of frustration can generalize onto the e-mail partner and negatively affect attitudes toward that person. This consequence undermines the social intent of the project. Likewise, limiting computer access also affects the quantity, timeliness and quality of the messages and ultimately of peer relationships. The lack of timely responses caused the most frustration. Others have observed this same issue (Allen & Thompson, 1994).

Serving as model . Teacher's messages can serve as a model for children to follow. More importantly, an occasional message from a teacher is always special for a child— and can smooth over rough spots such as technical problems or delayed partner response. The following are e-mail examples of teacher encouragement:

Dear ____,
Here is an old leter from ___ that didn't get through to you
because something was wrong with the computer. Thank you for writing avout Canada!

_____,
____'s teacher

Hi ____,
I'm sorry that you have not received mail from _____ lately. She is not in my class so it is sometimes hard to remind myself to give her time on the computer. I will give her your message and I'm sure that she will write soon. I hope you all had a good time at the zoo. I love to go there. There are some really beautiful animals there to see. Take care, and I will talk with you again soon.
Teacher

Dear _____,
_____would really like to hear what you learned about Canada. We are about to study the Arctic, part of which is in canada. What do you know about the weather there?
Teacher
Dear ____,

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It seems that _____ was not addressing her e-mail to you correctly, so that her last 5 letters didn't get through to you. I just fixed her addresses so you should be getting lots of e-mail today! Sorry for the problem.

Teacher

Conclusion/Implications

The quantitative difference in messages sent from the two classes demonstrates a systematic teacher impact, either promoting or interfering with the development of this mode of communication.

The success of projects such as this one rests heavily upon the willingness of teachers to integrate e-mail into the children's daily classroom activities and to recognize its value as a natural vehicle for deeper understanding of curriculum through review, reorganization and written expression of ideas, for social learning and for increased self-esteem. In addition, project success depends on teachers' recognition that e-mail can function as a medium for exchanging ideas with colleagues in settings different from their own, and for gaining insights into other teaching methods through the entry e-mail opens. Teachers become exposed to differences in room arrangement and organization, scheduling, teaching methods and children's classwork.

To summarize the required teacher intervention::

a) The teachers of the paired classrooms must agree to meet regularly
b) They must agree to provide daily access to the computer.
c) Teachers must help children receive and send mail until children are self-sufficient.
d) Teachers must encourage their students to develop questions to ask of their e-mail partners.
e) Teachers must ensure that their children will be in a position to provide information about their social studies work to their e-mail partner. For example, teachers may choose to review and chart key concepts, ideas and issues that their children experienced in their social studies units and that could be included in e-mail exchanges.

This program replaces didactic approaches with an open-ended strategy that couples classroom teacher collaboration with paired student cooperation, and integrates a student-driven review of the social studies curriculum with written communication and organization of ideas. It reinforces concepts by using a new avenue for their expression. It extends naturally over the course of the school year, unlike other e-mail projects (Baugh & Baugh, 1997) which are short-lived. Furthermore, this project is completely tied into each student's class curriculum and thus can be expanded into any curriculum area, especially those involving language arts, based on the interests of e-mail partners and collaborating teachers.

Acknowledgements

The work in this paper was funded by a CUNY Collaborative Research Award (RF#991982).

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